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MICHAEL E. WILLIAMS (1940–2003)

Michael E. Williams, known to all of his colleagues as "Mike," was the curator of vertebrate paleontology at The Cleveland Museum of Natural History for 28 years. During that time he supervised the Museum's extensive collection of vertebrate fossils, including one of the world's largest and most important collections of Devonian sharks and placoderms. He also authored or co-authored a number of important scientific papers on fossil sharks, dinosaurs, and dinosaur extinction.

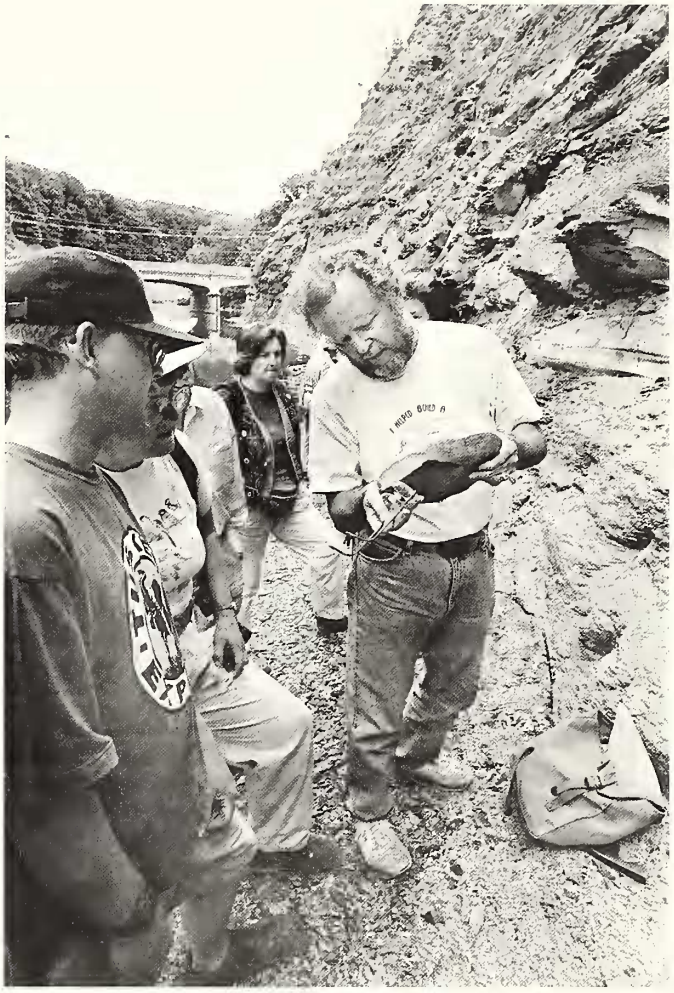
Mike was born in Ina, a little town in south-central Illinois, and spent his childhood in St. Louis. He attended the Missouri School of Mines and Metallurgy (now the Missouri University of Science and Technology) in Rolla, Missouri, and received a bachelor's degree in geology in 1963. While at Missouri, he exhibited a sense of adventure, being a member of the caving club for four years. There he mastered the art of rappelling under the guidance of the club advisor, a geologist who had been a mountain climber.

After graduation, Mike joined the Quartermaster Corps of the U.S. Army. His first assignment was in Crailsheim, in south-central Germany. Mike's posting in Germany led to a number of key events in his life. Here he acquired a life-long love of German culture. And because he lived off base in Crailsheim he was able to pursue his interests in fossil hunting and mountain climbing. With American and German friends, he practiced climbing techniques in the nearby Jura Mountains. The highpoint, both literally and figuratively, of Mike's climbing pursuits was the scaling of the Matterhorn in October of 1965. The climb was done with a colleague from the military and two local guides. They made the climb very late in the year (most climbs of the Matterhorn were—and are—made in the summer), when a considerable amount of snow had built up. Mike's unpublished manuscript, "A Matterhorn diary," recounts the details of this climb.

Mike met a young German woman, Ortrud Pappenscheller, in Crailsheim. After four years of service in Germany and Viet Nam, Mike left the army, and he and Ortrud married and moved to Lawrence, Kansas, so that Mike could do graduate work at the University of Kansas. The university was by that time world-famous as a center of paleontological research and training, primarily because of the prodigious output of paleontologist Raymond C. Moore. Mike and his spouse lived on the second floor of Moore's house in return for Ortrud's culinary skills (Moore especially loved steak and potatoes). Ortrud also helped with collecting.

While working on his master's degree, Mike had Standard Oil and Pratt fellowships as well as teaching assistantships. He also participated in summer field parties. Mike received his master's degree in the spring of 1972. His thesis was a study of spiral coprolites. This well written, excellently illustrated work was published in the *University of Kansas Paleontological Contributions* (Williams, 1972).

Mike joined The Cleveland Museum of Natural History in July of 1975. At the Museum he was known for his general intellect as



well as his expertise in geology, dinosaurs, and fossil fish. He supervised a small department at the Museum, overseeing the collecting and, particularly, the preparation of fossil fish from the Cleveland Member of the Ohio Shale. He led field teams to local outcrops (as seen in the accompanying photograph), as well as to dinosaur localities in North Dakota. During Mike's tenure at the Museum, he supervised trimming of the Cleveland Member concretions that had been collected in the 1960s so that they took up a more manageable space. Mike also supervised the expansion of the fossil-preparation stations at the Museum to make additional space for the preparators and volunteers who put in countless hours in preparation time. He also instituted the department's casting program so that casts could be produced continually. Mike continued work on his dissertation while

employed by the Museum, receiving his Ph.D. in Geology from the University of Kansas in 1979. His dissertation, "The 'cladodont level' sharks of the Pennsylvanian black shales of central North America," was later (Williams, 1985) published in *Palaeontographica.*

Mike was not prodigious in his publication output, but what he wrote was well reasoned, meticulously prepared, finely crafted, and beautifully illustrated. Mike had a very methodical mind and must have carefully thought out his ideas before putting pencil to paper, for he typically began writing a scientific paper, or even a nontechnical article, at the beginning and then carefully proceeded, point by point, to the end.

Mike, in collaboration with several well-known dinosaur workers, described two dinosaur taxa based on Cleveland Museum of Natural History specimens. One was the sauropod *Haplocauthosaurus delfsi* which John McIntosh and Mike described in this journal (McIntosh and Williams, 1988); the other was *Nanotyrannus*, described by Robert Bakker, Mike, and Philip Currie (Bakker, Williams, and Currie, 1988). It was Mike who coined the apt name *Nanotyrannus* for this small tyrannosaurid. The genus *Nanotyrannus* would become well known, in part because of the announcement of its identification as a new genus on the front page of the *New York Times*, and in part because of the subsequent controversy over its generic assignment (*Nanotyrannus* vs. *Tyrannosaurus*). Mike's most provocative technical article, however, was "Catastrophic versus noncatastrophic extinction of the dinosaurs: testing, falsifiability, and the burden of proof" (Williams, 1994), which he published in the *Journal of Paleoutology*. This article ran contrary to the dominant position on dinosaur extinction as Mike found key arguments for the instantaneous extinction of the dinosaurs to be flawed. Needless-to-say, Mike found that it was difficult to get his view published, but the fair-minded editors of the *Journal of Paleontology* not only accepted his paper but placed it as the lead article in the March, 1994, issue. The paper included cogent, well-reasoned arguments as well as a set of simple, yet elegant explanatory illustrations. The arguments given in this paper were taken seriously, and this paper became one of Mike's most cited works. Mike's work on this paper eventually led him to probe the basis for scientific reasoning, resulting in a thought-provoking paper (Williams, 1998b) on this topic published in the *Journal of Recreational Mathematics.*

But it is fossil fish, subjects of Mike's master's thesis and Ph.D. dissertation, in which Mike's true expertise lay. His papers on fish included "Feeding behavior in Cleveland Shale fishes" (Williams, 1990), a study which included a host of observations and inferences, notably a list of shark and placoderm specimens from the Cleveland Member that were associated with prey. This paper contains the best evidence for the food sources of the vertebrate predators of the Cleveland Member and is one of the best such studies of the prey of Devonian fish to date. Mike liked to refer to these fossil fish, with their identifiable stomach contents, as the first fossil collectors in the area. His paper on *Tamiobatis vetustus* (Williams, 1998a) described a well-preserved braincase from the Cleveland Member, and associated other material of this species. This paper included a review and analysis of a number of other fossil shark braincases. A 2001 paper by Mike reported on cladodont sharks retaining their teeth rather than shedding them as do modern sharks. In this paper he demonstrated his extensive knowledge of extant and extinct shark tooth mechanisms and mechanics. In the course of his career, Mike also co-authored papers on fossil fish with the well-known fossil fish workers Rainer Zangerl and Bobb Schaeffer.

Mike co-authored one technical paper on mammals, a posthumous work (Williams and Domning, 2004) describing Pleistocene or Holocene manatees in the Mississippi and Ohio river valleys, including the first marine mammal to be reported from the state of Ohio. Mike also wrote, upon occasion, for the Museum's nontechnical publications. The most important of these was an excellent article (Williams, 1992) on fossil shark jaws and teeth entitled "Jaws: the early years."

On a personal level, Mike was basically a quiet man. But once he realized that you were really interested in his favorite paleontological subjects he would open up and share his knowledge in great detail. He enjoyed gardening, beer, barbeque, chili, and wine, and had a large collection of movies, serials, and comic books. Mike also liked old-time music. He played bluegrass, country-folk, and old western music on the banjo which he built himself. He and his musically inclined colleagues would play at lunchtime in the paleontology preparation room at the Cleveland Museum. This group included his preparator, the Museum's chief financial officer, and an ever-changing array of other Museum staff and volunteers. This musical tradition has continued to this day.

J. Hannibal

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